D.C. DEPARTMENT OF TRANSPORTATION
ASSET MANAGEMENT DIVISION

STATUS OF ASSET MANAGEMENT SYSTEMS

Infrastructure Asset Inventory

This is a project to identify and record all asset types, exact geographic location, dimension, and in some cases the condition of the infrastructure asset within the rights of way. Asset types and attributes identified were reviewed and approved by all DDOT Administrations. Necessary paper work to process into FMIS has been submitted and waiting for approval to enter into PASS.

Sidewalk Management System (SMS):

Inventory and condition assessment of the entire District sidewalk is presently progressing at a full speed. Material type, width, length, and condition information are part of the database. In addition, curb, gutter, catch basin, wheel chair ramp information are also being collected. The planimetrics map produced from the aerial photos are being used. Information is collected on a block-by-block basis and additionally identified by the side of the street. A picture of each sidewalk within a block is attached to the information and stored in the database. GPS is also being used and assist to tie it with the existing GIS. A condition assessment procedure was also develop to help clearly identify deficiencies, assign appropriate treatment, develop good cost estimate, and ultimately produce a prioritized multi-year repair and rehab. program.

Bridge Management System (BMS):

The Bridge Management System is one of the oldest infrastructure management systems of DDOT. Condition assessment of all the bridges is performed biennial. Information collected is entered into the PONTIS Bridge Management program. Data is recorded at element level and processed using the PONTIS program. Impressive progress has been made with in the last year in using the collected information and developing a very comprehensive multi-year District wide Bridge Repair and Rehab . Program. In addition, DDOT is working with the Cambridge Systematics, developer of PONTIS, in modifying the program and making it more applicable to the District's condition.

Culvert Management System (CMS):

Inventory and condition assessment of all known culverts has been completed and a database was also established. Currently, DDOT is attempting to get a copy of WASA's map to continue the process and make the database fully comprehensive. Deteriorated culverts identified as a result of the assessment have been programmed and are currently being designed for rehabilitation.

Tunnel Management System (TMS):

This is the first Tunnel Management of its kind in the Nation. It is a result of the joint effort between the District Department of Transportation's and the Federal Highway's Asset Management Divisions. The District was the first as a pilot to implement this system and has been featured in the recent FHWA's FOCUS publication. FHWA is very much interested in promoting this product and is planning a major show case for September 20, 2005 here in the District. DDOT has already started using this system and also expanding the system's capability. DDOT has continued with the improvement and included a detailed inventory and inspection of the mechanical and electrical components of the tunnel in addition to the already existing similar structural information. This will greatly help the District to monitor the condition and develope a good maintenance and rehabilitation program. In addition, this detailed information has become a great resource while DDOT is presently developing the RFP for the next Performance Based Tunnel Asset Preservation contract.

Retaining Wall Management System (RWMS):

The contract for the inventory and condition assessment of the Retaining Walls and Other Structures is progressing very well. Any wall or other structure in the city with a height of two feet or greater will be inventoried and condition assessed and included in the database. In addition, exact geographic location, various dimensions, ownership, type of material including a photograph will be part of the database. Since it will be geo-coded, these walls and related information will be available through the GIS.

Overhead Sign Management System SMS):

A database for all the overhead sign within the District is currently available. In order to effectively and efficiently manage these assets, knowledge of their condition is very critical. To that end, the list has been provided to the Bridge inspection contractor to perform condition assessment and analysis of each of the signs as part of the bridge inspection program. The database will be updated accordingly and will be used to plan a maintenance as-well-as major rehabilitation program.

Pavement Management System (PMS):

This is the oldest of all the management systems. It was originally developed in the early 1980's and had gone through several upgrades and modifications. Currently, DDOT is moving to PAVER due to PAVER's improvement through the years as-well-as it inclusion in ASTM standard. PAVER allows DDOT to collect a more detailed distress information than DDOT could do with its previous system. This in turn enables DDOT to correctly analyze existing deficiencies and assign appropriate treatment accordingly. As noted earlier, PMS has been around for a long time and has been used for developing short and long term repair and rehab. programs. PMS is the prime tool for developing the District's annual and six-year Capital Improvement Program.

Highway Performance Monitoring System (HPMS)

This is the system used to compile and develop the annual report required by the Federal Highway Administration. It provides information on the condition and performance of the states highway system. This same information from each state is provided to Congress as report indicating the overall health of the Nation's highway system. Two steps are employed to compile this report. The first step goes thru the entire District's main database system (SIS) and picks the needed fields and associated information. Once it is formatted in the form that is acceptable by the FHWA's HPMS supplied program, it is then transferred. Once it is in the FHWA's program, validation runs are made and the errors generated gets corrected and rerun again until no error is found. This report after being reviewed and found acceptable, it is then forwarded to FHWA. DDDOT has made a lot of progress in improving the data quality and eliminating list of comments from FHWA. DDOT has always been submitting the required report on or much before the due date, June 15 of each year.

Street Inventory System (SIS):

This is the backbone as-well-as the repository of the whole infrastructure data and management systems. All the streets within the District, segmented block-by-block make up the SIS. Each block serves as a record within a street. All associated information including the roadway dimensions, pavement type, ward, functional class, curb, gutter, traffic, and all other multitude information of that particular block is maintained. Over a hundred fields exist for each record. Each management system is a sub-system of the SIS. Information contained within each sub-system make the fields in the SIS. SIS is also GIS enabled and hence, all info. within can be geographically mapped and presented.

Alley Management System:

Complete city-wide inventory and condition assessment of all the alleys was completed in 2004. Since most alleys are un-named, a coding system tied with the boundary streets was created for ease of identification and quarrying. The database base fields include – dimension, paving material type, ownership, condition, etc. The alleys system is GIS based and any information regarding an alley can be accessed by typing the surrounding streets or by zooming on the city-wide GIS map. The database has been used for prioritizing and developing a multi-year Capital Improvement Program. In addition, a photograph of each alley segment is tied to the database.

Project Tracking System (PROTRACK):

This is an in-house developed system for maintaining programmed improvement locations and monitor the progress thru the various stages (proposed, budgeted, under construction, completed). Residing on the Department's network, it is available to all employees. It provides quick information to those who are interested in information on a particular project and most importantly, easy editing capability to the owners of the project. The system being GIS enabled, it has greatly served the Department for coordinating work among Administrations in general and with the utility companies in particular. Various projects can easily mapped and overlaid to

determine any conflict and coordinate accordingly.